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09/690,393	10/17/2000	Matthew Squire	2204/A19	3271

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EXAMINER	
SALAD, ABDULLAHI ELMI	
ART UNIT	**PAPER NUMBER**
2157	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/690,393	SQUIRE ET AL.	
	Examiner	Art Unit	
	Salad E Abdullahi	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. The response filed on 9/29/2005 has been received and made of record.

2. Applicant's arguments filed on 9/29/2005 with respect claims 1-26 have been fully considered but they are not persuasive for the following reasons.

Before addressing applicant argument I would like to present a broad description of two routing protocols used by the routers of the references (Tapan and Chen) used in this rejection as such description will become apparent in subsequent examiner's response.

I) BGP protocol: is an example of an interdomain routing protocol which performs routing between **autonomous** systems by exchanging routing and reach-ability information among interdomain routers of the systems. The interdomain routers configured to execute the BGP protocol, called BGP routers, maintain routing tables, transmit routing update messages and render routing decisions based on routing metrics.

II) OSPF: is an example routing protocol popularly employed by routers **within an autonomous** system to exchange the topological information on which they base their routing decisions. Routers in a commonly administered group of networks conventionally employ OSPF to maintain a consistent view of the topology within that group of routers, which we will refer to as a "routing domain."

As per Tapan reference, specifically in according with figure 6, there are plurality of routers in figure 6 which can be categorized into two categories.

Category 1: routers within a domain such as domain 44 (i.e., I-ASBR, TR1A, ABR2 etc to E-ASBR). Such routers within commonly administered domain use OSPF protocol to exchange routing information.

Category 2: routers outside domain 44 such as Router S and Router D. Routers S, D and routers in domain 44 such as I-ASBR and E-ASBR are considered as border router or autonomous systems since they connect their domain to other neighboring domains, such router use the BGP protocol to exchange routing information.

Hence, examiner asserts any communication between such routers whether they are in the same or are located outside exchange some type of routing information (see col. 6, lines 1-54).

Now, applicant's argument will be fully considered and responded.

(A) Applicant contends "accordingly it does not appear that any routing information is forwarded from an outside the domain in the portion of text cited by the examiner, as both E-ABSR and I-ABSR are shown as residing in domain 44".

In response to applicant's argument with respect (A), examiner asserts that Tapan discloses an autonomous border router (I-ASBR) in domain 44 for receiving an information packet from another autonomous border router S. The information packet received by I- ASBR contain Border Gateway Protocol (BGP) used by border routers such as the outside domain router S and routers in domain 44 in order to exchange routing information (see col. 6, lines 1-27). Furthermore, figure 6 describes a situation where a source router S (i.e., a border gateway router for an out side domain) transmits an information packet toward destination router D which is also another border gateway

router through a routing domain 44. The autonomous border router of the routing domain 44 receives the packet. Autonomous border routers such router S on an outside domain and router I-ASBR on domain 44 use BGP protocol which is an exterior routing protocol to exchange routing information (see col. 6, line 21-27, which describes BGP protocols are used by routers which are not on the same domain to exchange routing information). Thus applicant's argument regarding routing information is forwarded routers within a routing domain is not persuasive.

(B) Applicant also alleges there is no mention or suggestion of routing information being forwarded into the domain of Tappan.

In response to applicant's argument with respect to (B), as discussed above the information received by domain 44 of Tapan from the outside router S is topological routing information exchanged by border routers. For example, as those skilled in the art would recognize when border such as router S want to share a routing information with other neighboring routers, they typically use BGP protocol to send the routing information. In this case border the information send by router S to the other border routers is routing information. Thus, Applicant's argument that no routing information is being forwarded into the domain of Tappan is not persuasive.

(C) neither of the reference discloses forwarding routing information into a domain, and filtering the routing information according to a policy of the domain.

In response to applicant's argument with respect (C), examiner respectfully disagrees because Tapan discloses domain 44 receiving a routing information from router S of an outside domain, modifying the received routing information by additional

routing label or parameters, then those routers configured as border routers in domain 44 filter the received routing information (see col. 8, lines 51-62). Furthermore, although Tapan is silent regarding applying a given policy of the domain to the routing information to produce filtered information, however, Chen an analogous system discloses propagating routing update information to a neighboring router including the step of applying a given policy to a routing information (see col. 6, lines 50 into col. 7, line 2). This allows selective generation of routing update messages by an interdomain router for its neighboring peer routers within autonomous systems of a computer network to avoid generation of unnecessary routing updates.

(D) Applicant alleges examiner has failed to provide proper motivation to combine the reference.

In response to applicant's argument with respect (D), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Tapan discloses receiving routing information in domain 44 and modifies the routing information to produce filtered version (see col. 9, lines 47-65). Tapan is silent regarding applying a given policy of a domain to produce the filtered version. Nonetheless, Chen in an analogous system discloses propagating routing update information to neighboring routers including the step of applying a given policy to

a routing information (see col. 6, lines 50 into col. 7, line 2). This allows selective generation of routing update messages by an interdomain router for its neighboring peer routers within autonomous systems of a computer network to avoid generation of unnecessary routing updates. Hence, applicant's argument regarding no proper motivation to combine the references is not persuasive.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tappan et al., U.S. Patent No. 6,603,756[Tappan] in view of Chen U.S. 6,567,380 [hereinafter Chen].

As per claim 1, Tappan discloses a method for distributing routing information through a plurality of network devices (see fig. 6, elements I-ASBR, TR1A, TR1B, ABR1 etc) the plurality of network devices being members of a single domain (see fig. 6, domain 44), each of the network devices operating in accord relating to routing information, the method comprising:

receiving, from outside the domain (external domain or external source i.e. router S), an information message at one of the network devices (I-ASBR), the information message having routing information (see fig. 6, and col. 6, lines 16-27);

modifying the routing information (i.e., modifying the data packet by adding label to forward the packet (see col. 10, line 43-to col. 11, line2) by of the network device that received the information message to the routing information in the information message to produce filtered routing information (see col. 5, line 65 to col. 6, line 54 and col. 9, lines 47-65);

flooding the filtered routing information to each of the plurality of network devices (see col. 8, line 51 to col. 9, line 25).

Tappan is silent regarding:

modifying the routing information applying a given policy.

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying the routing information applying a given policy (i.e., identifying any changes and applying appropriate routing policies) a received routing information using predetermined policy (see col. 6, line 50 to col. 7, line 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

In considering claim 2, Tappan discloses the method as defined by claim 1, wherein the pluralities of network devices are in a ring connectivity (see fig. 6).

In considering claim 3, Tappan discloses the method as defined by claim 1, wherein the plurality of network devices comprises at least three network devices, the at least three network devices including a given network device that is connected with no more than one other of the plurality of network devices (see fig. 6, elements in the domain 44).

In considering claim 4,Tappan discloses the method as defined by claim 1, wherein the act of flooding comprises adding a link state advertisement header to the policy filtered routing information (see fig. 7, and col. 7, lines 6-60).

In considering claim 5, Tappan discloses the method as defined by claim 1, wherein the policy filtered routing information comprises the received routing information in the information message (col. 5, line 65 to col. 6, line 54).

In considering claim 6, Tappan discloses the method as defined by claim 1, further comprising storing the routing information in local data storage (see col. 1, lines 23-38).

In considering claim 7, Chen discloses the method as defined by claim, wherein the given policy is set by an administrator (see col. 6, line 50 to col. 7, line 2).

As per claim 8, Tappan disclose discloses an apparatus for distributing routing information through a plurality of network devices, the plurality of network devices being

members of a single domain, each of the network devices operating in accord with given policy relating to routing information, the method comprising:

receiving, from outside the domain (external domain or external source i.e. router S), an information message at one of the network devices (I-ASBR), the information message having routing information (see fig. 6, and col. 5, line 65 to col. 6, line 54);

applying the given policy (i.e. the policy of the domain 44) of the network device that received the information message to the routing information in the information message to produce policy filtered routing information (see col. 5, line 65 to col. 6, line 54); and

flooding the policy filtered routing information to each of the plurality of network devices (see col. 8, line 51 to col. 9, line 25).

Tappan is silent regarding: a policy module modifying the routing information.

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying (i.e., updating) a received routing information using predetermined policy (see col. 7, lines 9-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

In considering claim 9, Tappan discloses the apparatus as defined by claim 8, wherein the plurality of network devices are in a ring connectivity(see fig. 6).

In considering claim 10, Tappan discloses the apparatus as defined by claim 8, wherein the plurality of network devices comprises at least three network devices, the at least three network devices including a given network device that is connected with no more than one other of the plurality of network devices (see fig. 6, elements in the domain 44).

In considering claim 11, Tappan discloses the apparatus as defined by claim 8, wherein the act of flooding comprises adding a link state advertisement header to the policy filtered routing information (see fig. 7, and col. 7, lines 6-60).

In considering claim 12, Tappan discloses the apparatus as defined by claim 8, wherein the policy filtered routing information comprises the received routing information in the information message (col. 5, line 65 to col. 6, line 54).

In considering claim 13, Tappan discloses the apparatus as defined by claim 8, further comprising storing the routing information in local data storage (see col. 1, lines 23-38).

In considering claim 14, Tappan discloses the apparatus as defined by claim 8, wherein the given policy is set by an administrator (commonly administered network shows the given policy is set by an administrator)(see col. 4, line 60 to col. 5, line 35).

As per claim 15, Tappan disclose a program product for use in a network device in first domain of network devices, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable product code comprising:

a program code for receiving an information message the information message having routing information (see fig. 6, and col. 5, line 65 to col. 6, line 54);

a program code for applying the given policy (i.e. the policy of the domain 44) of the network device that received the information message to the routing information in the information message to produce policy filtered routing information (see col. 5, line 65 to col. 6, line 54); and

a program code for flooding the policy filtered routing information to each of the plurality of network devices (see col. 8, line 51 to col. 9, line 25).

Tappan is silent regarding: a program code for modifying the routing information by applying a given policy.

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying (i.e., updating) a received routing information using predetermined policy (see col. 7, lines 9-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the

invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

In considering claim 16, Tappan discloses the computer program product as defined by claim 15, wherein the plurality of network devices are in a ring connectivity (see fig. 6).

In considering claim 17, Tappan discloses the computer program product as defined by claim 15, wherein the plurality of network devices comprises at least three network devices, the at least three network devices including a given network device that is connected with no more than one other of the plurality of network devices (see fig. 6, elements in the domain 44).

In considering claim 18, Tappan discloses the computer program product as defined by claim 15,wherein the act of flooding comprises adding a link state advertisement header to the policy filtered routing information (see fig. 7, and col. 7, lines 6-60).

In considering claim 19, Tappan discloses the computer program product as defined by claim 15,wherein the policy filtered routing information comprises the received routing information in the information message (col. 5, line 65 to col. 6, line 54).

In considering claim 20, Tappan discloses the computer program product as defined by claim 15, further comprising storing the routing information in local data storage (see col. 1, lines 23-38).

In considering claim 21 Tappan discloses the computer program product as defined by claim 15, wherein the given policy is set by an administrator (commonly administered network shows the given policy is set by an administrator)(see col. 4, line 60 to col. 5, line 35).

As per claim 22, Tappan discloses a network device (IASBR) in a first domain (44) operating in accord with given policy relating to routing information, the network device comprising:

an input coupled with a network device (router S) in a second domain (out side domain), the input receiving outside the domain (external domain or external source i.e., router S), an information message at one of the network devices (I-ASBR), the information message having routing information (see fig. 6, and col. 5, line 65 to col. 6, line 54);

modifying the routing by the network device that received the information message to the routing information in the information message to produce policy filtered routing information (see col. 5, line 65 to col. 6, line 54); and

flooding the policy filtered routing information to each of the plurality of network devices (see col. 8, line 51 to col. 9, line 25).

Tappan is silent regarding: a policy module coupled with the input, the policy module applying the given policy to the routing information.

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying (i.e., updating) a received routing information using predetermined policy (see col. 7, lines 9-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

In considering claim 23,Tappan discloses the network device as defined by claim 22, further comprising a link state module for adding a link state advertisement header to the policy filtered routing information (see fig. 7, and col. 7, lines 6-60).

As per claim 24, Tappan disclose a method for distributing routing information from a network device, the network device being member of a single domain and operating in accord with given policy relating to routing information, the method comprising: receiving, from within the domain, an information message with a link state a link state advertisement header at one of the network devices, the information message having a routing information (see fig. 7, and col. 7, lines 6-60).

Modifying the routing information by the network device that received the information message to the routing information in the information message to produce filtered routing information (see col. 5, line 65 to col. 6, line 54); and

forwarding the filtered routing information to network device in a second domain (see col. 8, line 51 to col. 9, line 25).

Tappan is silent regarding: modifying the routing information by applying a given policy

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying (i.e., updating) a received routing information using predetermined policy (see col. 7, lines 9-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

As per claim 25, Tappan discloses a network device in a first domain (44) operating in accord with given policy relating to routing information, the network device comprising: an input coupled with a network device in the first domain, the input receiving an information message with a link state a link state advertisement header at one of the network devices, the information message having a routing information (see fig. 7, and col. 7, lines 6-60).

Modifying the routing information by network device that received the information message to the routing information in the information message to produce policy filtered routing information (see col. 5, line 65 to col. 6, line 54); and

an output (I-ASBR) coupled with a network device (router) in a second domain (the external domain that router D belongs), the output forwarding the filtered routing information to the network device in the second domain (see col. 12, lines 27-42).

Tappan is silent regarding: a policy module coupled with the input, the policy module applying the given policy to the routing information.

Chen discloses in an analogous art discloses a method for propagating routing information to its neighboring router including modifying (i.e., updating) a received routing information using predetermined policy (see col. 7, lines 9-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Chen such as modifying the routing information by applying a given policy to allow selective generation of routing update messages (i.e., filtered) by an inter-domain router for its neighboring peer routers within autonomous systems to avoid generation of unnecessary routing updates in order to preserve network bandwidth utilization [see col. 3, lines 5-10].

In considering claim 26,Tappan discloses the network device as defined by claim 22, further comprising a link state module for adding a link state advertisement header to the policy filtered routing information (see fig. 7, and col. 7, lines 6-60).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CONCLUSION

6. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salad E Abdullahi whose telephone number is 703-308-8441. The examiner can normally be reached on 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abdullahi Salad
Examiner Au 2157
2/5/2004